

I CLAIM:

1. A vertical mixer comprising a mixing chamber containing a substantially vertical rotatable auger having a generally helical flight that is tapered to converge from bottom to top, said flight having a periphery, with power means to rotate said auger about a longitudinal centre axis, said chamber having at least one opening to receive and discharge materials to be mixed, said chamber having an underside with two sets of wheels thereon, there being one set of wheels at each side of said mixer, each set of wheels having at least two wheels therein, said at least two wheels being mounted so that said at least two wheels are adjustable relative to said chamber to cushion variations in the terrain supporting the mixer.
2. A vertical mixer is claimed in Claim 1 wherein each set of wheels has a pivot point, each wheel of said at least two wheels of each set being adjustable by pivoting about said pivot point, said pivot point being located apart from a centre axis of each wheel.
3. A vertical mixer as claimed in Claim 2 wherein the mixer has a tongue extending outward at a front thereof and has one weight bar being located in said tongue and one additional weight bar being located at each pivot point of each of said sets of wheels, the weight bars being constructed to simultaneously provide a signal to a display, the display setting out the weight of material within the mixer at any given time.
4. A vertical mixer as claimed in Claim 2 wherein said mixer has a tongue extending outward at a front thereof and has one weight bar being

located in said tongue, with two additional weight bars providing said pivot points for said two sets of wheels, there being one additional weight bar for each set, said weight bars being constructed to simultaneously provide a signal to a display, said display setting out the weight of materials within the mixer.

5. A vertical mixer as claimed in Claim 4 wherein each set pivots around one of said additional weight bars.
6. A vertical mixer as claimed in Claim 2 wherein said mixer has a frame with a tongue extending outwards from said frame.
7. A vertical mixer as Claim in Claim 2 wherein said mixer has a tongue extending outward at a front thereof.
8. A vertical mixer as claimed in Claim 6 wherein said mixer has two wheels in each set, said two wheels being mounted side by side.
9. A vertical mixer as claimed in Claim 8 wherein said two wheels of a set are mounted on an axle extending between said two wheels, said axle being mounted to pivot about said pivot point in a plane extending laterally through said mixer and parallel to said axle.
10. A vertical mixer as claimed in Claim 9 wherein said plane extends through said axle and is substantially parallel to said longitudinal centre axis of said auger.
11. A vertical mixer as claimed in Claim 2 wherein said at least two wheels of each set being four wheels, with a first wheel and second wheel

of said four wheels being mounted in tandem and a third wheel and fourth wheel of said four wheels being mounted in tandem, said first and third wheels being mounted side by side, said second and fourth wheels being mounted side by side, said four wheels being mounted about said pivot point so that said four wheels can pivot in a plane extending from front to rear of said mixer parallel to a centre line of said mixer, said plane being substantially parallel to a longitudinal centre axis of said auger.

12. A vertical mixer as claimed in Claim 11 wherein said first and third wheels move downwards as said second and fourth wheels move upwards and vice versa, the pivoting motion of the wheels of each set being independent from the pivoting motion of the other set.

13. A vertical mixer as claimed in Claim 12 wherein the wheels of each set are in a fixed relationship relative to one another.

14. A vertical mixer as claimed in any one of Claims 9, 11 or 13 wherein there is a weight bar mounted at the pivot point of each set, there being one weight bar for each set, said mixer having a tongue extending outwards from a front thereof, there being a weight bar mounted in said tongue, said weight bars being constructed to provide a signal to allow a weight of materials within the mixer to be determined at any given time.

15. A vertical mixer as claimed in any one of Claims 9, 11 or 13 wherein a weight bar is located to provide said pivot point for each set, there being one weight bar for each set, there being one weight bar for each set, said mixer having a tongue extending outwards from a front thereof, there being a weight bar mounted in said tongue, said weight bars

being constructed to provide a signal to a display to allow a weight of materials within the mixer to be determined at any given time.

16. A vertical mixer as claimed in any one of Claims 9, 11 or 13 wherein there is a weight bar mounted at the pivot point of each set and said mixer has a tongue extending outwards from a front thereof, there being a weight bar mounted in said tongue, said weight bars being constructed to provide a signal to a display to allow a weight of materials within said mixer to be determined and displayed continuously.

17. A vertical mixer as claimed in any one of Claims 9, 11 or 13 wherein there is a weight bar mounted at the pivot point of each set and said mixer has a tongue extending outwards from a front thereof, there being a weight bar mounted in said tongue, said weight bars being constructed to provide a signal to allow a weight of materials within said mixer to be determined continuously.

18. A vertical mixer as claimed in any one of Claims 1, 2 or 3 wherein said mixing chamber has a floor and a side wall, said side wall having an opening therein that includes part of said floor, said opening being sized and located to be closed by a door, said door having a closed position and an open position, said door having a segment thereon that forms part of said floor when said door is in said closed position.

19. A vertical mixer as claimed in any one of Claims 1, 2 or 3 wherein said mixing chamber has a side wall therein with at least one window extending at least partially between a top and bottom of said side wall to allow visual access to an interior of said chamber from outside said mixer.

20. A vertical mixer comprising a mixing chamber containing a substantially vertical rotatable auger having a generally helical flight that

is tapered to converge from bottom to top, said flight having a periphery, with power means to rotate said auger about a longitudinal centre axis, said chamber having at least one opening to receive and discharge materials to be mixed, said chamber having an underside with two sets of wheels thereon, there being one set of wheels at each side of said mixer, there being a weight bar for each set of wheels, said weight bar being located to provide a pivot point for the wheels of that set, there being a third weight bar mounted at a front of said mixer, said weight bars being constructed to provide a signal from which the weight of materials in the mixer can be determined at any given time or on a continuous basis.

21. A vertical mixer as claimed in any one of Claims 1, 2 or 3 wherein said mixing chamber has a floor and a side wall, said side wall having an opening therein that includes part of said floor, said opening being sized and located to be closed by a door, said door having a closed position and an open position, said door having a segment thereon that forms part of said floor when said door is in said closed position, said side wall having at least one window extending at least partially between a top and bottom of said side wall to allow visual access to an interior of said chamber from outside said mixer.

22. A method of constructing a vertical mixer with adjustable wheels by having one set of wheels on each side of said mixer, said method comprising locating one pivot point on each side of said mixer, said pivot point being generally centrally located relative to the wheels of each set, there being two pivot points and one pivot point of said two pivot points for each set.

23. A method as claimed in Claim 22 including the steps of locating a weight bar on each set so that said weight bar forms said pivot point for each set, there being two weight bars, locating a third weight bar at a front of said mixer and constructing the weight bars to provide a signal to indicate the weight of material within the mixer at any given time or continuously.